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## ABSTRACT OF THE DISCLOSURE

A microscope, especially a microscope that is used for inspection in semiconductor manufacture is disclosed. The microscope comprises a pulsed laser for the purpose of illumination, preferably in the UV range. At least one rotating diffusion disk is disposed downstream of the laser so as to homogenize the illumination. Preferably, two rotating diffusion disks of opposite rotational sense are disposed in the illumination beam path either directly or indirectly one behind the other.